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**IS : 8261 ( Part III ) - 1976**

*Indian Standard* ( Reaffirmed 1997 )

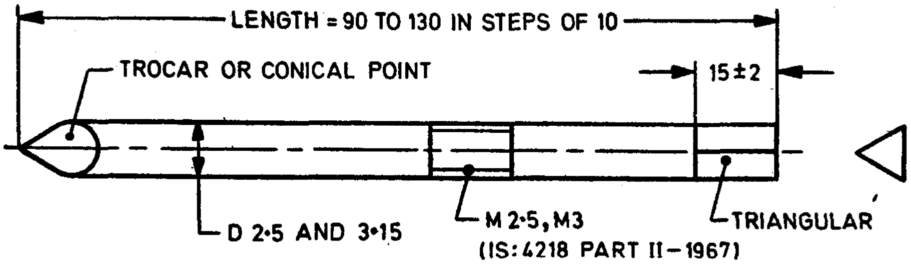
# SPECIFICATION FOR PINS AND WIRES, SKELETAL, TRACTION

## PART III PINS AND WIRES, FIXATION AND THREADED

Orthopaedic Instruments and Accessories Sectional Committee, CPDC 24; Implants and Accessories Subcommittee, CPDC 24:1 [ Ref: Doc: CPDC 24 ( 979 ) ]

**1. Scope** — Dimensional and other requirements for fixation and threaded pins and wires, used for internal fixation of the neck of the femur and for displaced upper femoral epiphysis in orthopaedic surgery.

**2. Shape and Dimensions** — As shown in Fig. 1.



All dimensions in millimetres.

FIG. 1 PINS AND WIRES, FIXATION AND THREADED

**2.1** A deviation of ± 2·5 percent shall be allowed on dimensions where not otherwise specified.

**2.2** *Ends* — The point shall be conical or trocar in shape having a diameter not greater than the diameter of the pin. The end opposite to the point shall have a three faced shank suitable for fitting to a 3-jaw chuck. The length of the triangular portion of the shank shall be 15 ± 2 mm.

**2.3** When threaded fixation pins are used, the conical point is recommended in order to facilitate removal as the trocar point tends to become locked in the bone preventing rotation.

**2.4** *Diameter* — The diameter of the pins and wires shall be 2·50 mm and 3·15 mm ( *see* IS : 1137-1969 Specification for thicknesses of sheet and diameters of wire ).

**2.5** *Length* — Shall be 90 mm to 130 mm in 10 mm steps as specified by the purchaser.

**2.6** *Screw Threads* — Screw threads used with pins of 2·50 mm and 3·15 mm diameter respectively shall be M 2·5 × 0·45 and M 3 × 0·50, medium class fit, ISO metric screw threads in accordance with IS : 4218 ( Part II )-1967 ‘ ISO metric screw threads: Part II Pitch diameter combinations ’.

**2.7** *Nuts* — If nuts are used with threaded pins, the external form of the nuts shall be hexagon and the width across flats shall be 8 mm. Internal threads of the nuts shall match the threads on the appropriate pins or wires.

**3. Material** — Shall be austenitic stainless steel, wrought cobalt-chromium alloy or titanium alloy in accordance with the requirements specified in **3.1** to **3.3.2**.

**3.1** *Austenitic Stainless Steel* — Shall be in accordance with **A-1.1** of IS : 5347-1969 ‘ General requirements of metal surgical implants ’ and shall meet the requirements of the corrosion resistance test given in **6.1.1** of IS : 5347-1969.

**3.1.1** *Condition* — The pins and wires shall be in the cold drawn condition but may have received stress relieving treatment at a temperature not exceeding 450°C.

**3.1.2** *Tensile strength* — The minimum tensile strength of pins and wires shall be 1 550 N/mm².

**3.2** *Wrought Cobalt-Chromium Alloy* — Shall be in accordance with **A-3.1** of IS : 5347-1969.

**3.2.1** *Condition* — The pins and wires shall be in the cold drawn condition but may have received stress relieving heat treatment in inert atmosphere.

Adopted 20 December 1976

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**3.2.2** *Tensile strength* — The minimum tensile strength of pins and wires shall be 1 280 N/mm$^2$.

**3.3** *Titanium Alloy* — Shall be in accordance with **A-4.1** of IS : 5347-1969.

**3.3.1** *Condition* — The pins and wires shall be in the cold drawn condition and centreless ground.

**3.3.2** *Tensile strength* — The tensile strength of pins and wires shall be between 1 150 N/mm$^2$ and 1 400 N/mm$^2$.

## 4. Workmanship and Finish

**4.1** The pins and wires shall be free from seams, laps, draw marks, cracks, pits, etc.

**4.2** Unless otherwise stated, the pins and wires shall be well polished.

## 5. Marking

**5.1** The packet containing pins and wires shall be clearly and indelibly marked with the following:

a) Manufacturer's name, initials or recognized trade-mark;
b) Name of the material; and
c) Size.

**5.2** *ISI Certification Marking* — Details available with the Indian Standards Institution.

## 6. Packing

**6.1** As agreed to between the purchaser and the supplier.

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# AMENDMENT NO. 1 APRIL 1985

# TO

# IS:8261(Part 3)-1976 SPECIFICATION FOR PINS AND WIRES, SKELETAL, TRACTION

## PART 3 PINS AND WIRES, FIXATION AND THREADED

(*Page 1, clause 3*) - Delete the existing clause 3 and its sub-clauses and substitute the following:

"3. Material - Shall be in accordance with IS:8261 (Part 4)-1985 'Specification for pins and wires, skeletal, traction, Part 4 Materials and mechanical requirements'."

(CPDC 24)

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